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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,721	09/26/2003	Robert H. Wollenberg	T-6074	9409

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,721

Applicant(s)

WOLLENBERG ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/26/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: words appear to be missing in line 7 after "and". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1 recites the limitation "the contacting" in the second line after the formula.

There is insufficient antecedent basis for this limitation in the claim.

(b) Claim 1 recites "reacting equivalent" line 4 after the formula. The scope of the claim is confusing because it is not clear what is meant by this phrase or what materials are encompassed by this phrase. While it is noted that page 23, lines 24-25 of the present specification discloses that "reacting equivalent" means any material equivalent to ethylene glycol and carbon monoxide such as carbon acid half ester, the scope of the claim is still

confusing because it is not clear what is meant by equivalent or when materials are considered to be equivalent to ethylene glycol and carbon dioxide.

Similar confusion arises in claims 11 and 21 which each also recite "reacting equivalent".

(c) Claim 32 discloses that the temperature of the system is raised "if necessary". The scope of the claim is confusing because it is not clear what is meant by "if necessary" or when it would be necessary to raise the temperature. Clarification is requested.

(d) Claim 35 recites heating the fourth reaction mixture of step (d) under "reduced pressure". The scope of the claim is confusing because it is not clear what is meant by "reduced pressure" or what pressures this encompasses.

(e) Claims 40-43 each recite "predominantly straight chain alkyl group". The scope of the claim is confusing because it is not clear what is meant by "predominantly" or what types of straight chain alkyl groups are considered "predominantly" straight chain.

(f) Claim 44 recites that the alkyl group of the alkyphenol is "attached predominantly" at the para position of the phenol ring. The scope of the claim is confusing because it is not clear what is meant by "attached predominantly". Clarification is requested.

(g) Claim 61 recites the limitation "the material" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 63-66 are rejected under 35 U.S.C. 102(b) as being anticipated by Kwabe et al. (U.S. 6,187,972).

Kwabe et al. disclose process for in situ delivery of equimolar quantities of alkylene glycol and carbon dioxide to a reaction mixture wherein the process comprises delivering to the mixture alkylene carbonate such as ethylene carbonate including that comprising methyl group in the presence of water wherein the alkylene carbonate hydrolyzes at temperature of 50-200 °C to produce alkylene glycol and carbon dioxide (col.2, lines 21-25 and 31-33, col.4, lines 10-47, col.5, lines 52-62, and col.6, lines 49-51).

In light of the above, it is clear that Kwabe et al. anticipate the present claims

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chang et al. (U.S. 4,865,754) discloses overbased sulfurized alkylphenol with color less than 3.5, however, there is no disclosure of TBN as required in present claim 61. Further, no disclosure of process for preparing the overbased sulfurized alkylphenol comprising the use of ethylene carbonate as presently claimed.

GB 2197336 disclose method of preparing Group II metal overbased sulfurized alkylphenol comprising reacting higher alkyl group substituted phenol, oil-soluble Group II metal overbased hydrocarbyl sulfate, higher alkanol, a Group II metal oxide, hydroxide, or alkoxide, sulfur, alkylene glycol, carbon dioxide, and catalyst. However, there is no disclosure or suggestion of the use of ethylene carbonate as required in all the present claims. Rather, GB 2197336 utilizes combination of ethylene glycol and carbon dioxide.

Erdman et al. (U.S. 4,927,551) disclose method of preparing Group II metal overbased sulfurized alkylphenol comprising reacting sulfurized alkyl phenol, alkanol comprising at least 8 carbons, Group II metal oxide, hydroxide, or alkoxide, C₂-C₄ alkylene glycol, and carbon dioxide. However, there is no disclosure or suggestion of the use of ethylene carbonate as required in all the present claims. Rather, Erdman et al. utilizes combination of ethylene glycol and carbon dioxide.


NOTE: It is noted that rejections of claims 56-62 drawn to product are not envisioned over GB 2197336 or Erdman et al. in light of the comparative data set forth in the present specification. Specifically, tables III and IV compare Group II metal overbased sulfurized alkylphenol within the scope of the present claims, i.e. prepared using ethylene carbonate, with Group II metal overbased sulfurized alkylphenol outside the scope of the present claims but within the scope of the prior art, i.e. prepared using ethylene glycol and carbon dioxide. It is shown that the presently claimed Group II metal overbased sulfurized alkylphenol is superior in terms of hydrolytic stability and color.

Art Unit: 1714

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
3/20/06